

### III. CLAIM AMENDMENTS

1. (Currently Amended) A method for implementing a messaging service between a terminal ~~(MS)~~ of a cellular network and a messaging server ~~(MMSC)~~ external to the cellular network, the method comprising:

receiving a message addressed to said terminal ~~(MS)~~ at the messaging server ~~(MMSC)~~, wherein the method comprises;

sending a first inquiry ~~(41)~~ from the messaging server ~~(MMSC)~~ to a specific first network element ~~(GGSN)~~ in the cellular network to determine the readiness of said terminal ~~(MS)~~ to receive data;

determining the readiness of said terminal ~~(MS)~~ to receive data as a result of operations performed by the first network element ~~(GGSN)~~;

sending a first response message ~~(47)~~ from the first network element ~~(GGSN)~~ of the cellular network to said messaging server ~~(MMSC)~~ in response to said first inquiry ~~(41)~~, in which response message the readiness of said terminal ~~(MS)~~ to receive data is indicated.

2. (Currently Amended) A method according to claim 1, wherein values of parameters relating to the readiness of terminals ~~(MS)~~ of the cellular network to receive data are known to said network element ~~(GGSN)~~ of the cellular network and that the readiness of said terminal to receive data through said first network element is interpreted with the help of said parameter values, the method comprising:

in a situation, where said terminal ~~(MS)~~ is ready to receive data through said first network element ~~(GGSN)~~, indicating said readiness in said first response message ~~(41)~~ to said messaging server ~~(MMSC)~~; and

in a situation, where said terminal ~~(MS)~~ is not ready to receive data through said first network element ~~(GGSN)~~, sending a second inquiry ~~(43, 43')~~ to a home location register ~~(HLR)~~ of the cellular network to determine a set of permissible network elements of the cellular network, the network elements belonging to the set of permissible network elements having in their knowledge values of parameters relating to the readiness of terminals to receive data, and through which network elements said terminal has the ability to receive data, and sending in response to said second inquiry ~~(43, 43')~~ a second response message ~~(44, 44')~~ from the home location register ~~(HLR)~~ to said first network element ~~(GGSN)~~, the second response message indicating said set of permissible network elements to said first network element.

3. (Currently Amended) A method according to claim 2, wherein after said second response message ~~(44, 44')~~ has indicated said set of permissible network elements to said first network element ~~(GGSN)~~, a third inquiry ~~(45)~~ is sent to at least one second network element belonging to the set of permissible network elements by said first network element to determine the readiness of said terminal ~~(MS)~~ to receive data through said second network element, the method comprising:

in a situation, where said terminal ~~(MS)~~ is ready to receive data through said second network element, transmitting information ~~(46)~~ on said readiness in response to said third inquiry from the second network element to the first network element; and

indicating said readiness in said first response message ~~(47)~~ to said messaging sever ~~(MMSC)~~.

4. (Currently Amended) A method according to claim 1, wherein in

a situation, where said terminal ~~(MS)~~ is ready to receive data through a specific network element ~~(GGSN)~~, the method comprises sending said message addressed to the terminal from the messaging server ~~(MMSC)~~ to the terminal through said specific network element.

5. (Currently Amended) A method according to claim 1, wherein in a situation, where said terminal ~~(MS)~~ is not ready to receive data through any said network element, the method comprises repeating said first inquiry ~~(41)~~ after a specific period of time.
6. (Currently Amended) A method according to claim 1, wherein said network elements are gateway support nodes of a GPRS (General Packet Radio Service) network ~~(GGSN)~~.
7. (Currently Amended) A method according to claim 1, wherein the IP address of said terminal ~~(MS)~~ is indicated to said messaging server ~~(MMSC)~~ in said first response message. ~~(47)~~.
8. (Previously Presented) A method according to claim 1, wherein one of the following is used to identify the terminal MS in the cellular network: an IMSI (International Mobile Subscriber Identity) code, an IMUI (International Mobile User Identity) code.
9. (Currently Amended) A method according to claim 1, wherein a specific identifier ~~(MMS-ID)~~ external to the cellular network is used between the cellular network and the messaging server to identify the terminal ~~(MS)~~.
10. (Currently Amended) A method according to claim 1, wherein

said messaging server ~~(MMSC)~~ transfers a multimedia message to said terminal ~~(MS)~~.

11. (Currently Amended) A method according to claim 1, wherein said first inquiry ~~(41)~~ is always sent from the messaging server ~~(MMSC)~~ to the same first network element ~~(GGSN)~~.

12. (Previously Presented) A method according to claim 1, wherein data transmission is effected in a packet switched mode.

13. (Currently Amended) A messaging server ~~(MMSC)~~ external to a cellular network for implementing a messaging service between the messaging server and a terminal ~~(MS)~~ of the cellular network, the messaging server comprising;

means ~~(51—55)~~ for receiving a message addressed to said terminal ~~(MS)~~, wherein the messaging server further comprises:

means ~~(51, 55)~~ for sending a first inquiry ~~(41)~~ to a first network element ~~(GGSN)~~ of the cellular network to determine the readiness of said terminal ~~(MS)~~ to receive data.

14. (Currently Amended) A messaging server ~~(MMSC)~~ according to claim 13 wherein it comprises:

means ~~(51, 55)~~ for receiving a first response message ~~(47)~~ sent from the cellular network by the first network element ~~(GGSN)~~ in response to said first inquiry ~~(41)~~, the response message comprising information on the readiness of said terminal ~~(MS)~~ to receive data;

means ~~(51—53, 55)~~ for sending said message to said terminal ~~(MS)~~.

15. (Currently Amended) A computer program product executable in

a messaging server ~~(MMSC)~~ external to a cellular network for implementing a messaging service between the messaging server and a terminal ~~(MS)~~ of the cellular network, the computer program product comprising program code:

for causing the messaging server ~~(MMSC)~~ to receive a message addressed to said terminal ~~(MS)~~, wherein the computer program product further comprises program code:

for causing the messaging server ~~(MMSC)~~ to send a first inquiry ~~(41)~~ to a first network element ~~(GGSN)~~ of the cellular network to determine the readiness of said terminal ~~(MS)~~ to receive data.

16. (Currently Amended) A network element ~~(GGSN)~~ of a cellular network for implementing a messaging service between a messaging server external to the cellular network and a terminal ~~(MS)~~ of the cellular network, wherein the network element comprises:

means ~~(66, 67)~~ for receiving a first inquiry ~~(41)~~ sent by the messaging server, the first inquiry comprising a request to determine the readiness of said terminal ~~(MS)~~ of the cellular network to receive data;

means ~~(61, 62, 67, 69, DNS)~~ for determining readiness of said terminal ~~(MS)~~ to receive data;

means ~~(66, 67)~~ for sending a first response message ~~(47)~~ to the messaging server ~~(MMSC)~~ in response to said first inquiry ~~(41)~~, the first response message comprising information on the readiness of said terminal ~~(MS)~~ to receive data.

17. (Original) A network element according to claim 16, wherein said network element is a gateway support node of a GPRS cellular network.

18. (Currently Amended) A computer program product executable in a network element ~~(GGSN)~~ of a cellular network for implementing a messaging service between a messaging server ~~(MMSC)~~ external to the cellular network and a terminal ~~(MS)~~ of the cellular network, wherein the computer program product comprises:

program code for causing the network element ~~(GGSN)~~ of the cellular network to receive a first inquiry ~~(41)~~ sent by the messaging server ~~(MMSC)~~, the first inquiry comprising a request to determine the readiness of said terminal ~~(MS)~~ of the cellular network to receive data;

program code for causing the network element ~~(GGSN)~~ of the cellular network to determine the readiness of said terminal ~~(MS)~~ to receive data;

program code for causing the network element ~~(GGSN)~~ of the cellular network to send a first response message ~~(47)~~ to the messaging server ~~(MMSC)~~ in response to said first inquiry ~~(41)~~, the first response message comprising information on the readiness of said terminal ~~(MS)~~ to receive data.

19. (Currently Amended) A system comprising a messaging server ~~(MMSC)~~ external to a cellular network and a network element ~~(GGSN)~~ of the cellular network for implementing a messaging service, between the messaging server and a terminal ~~(MS)~~ of the cellular network, the messaging server comprising:

means ~~(51—55)~~ for receiving a message addressed to said terminal ~~(MS)~~ at the messaging server ~~(MMSC)~~, wherein the messaging server comprises:

means ~~(51, 55)~~ for sending a first inquiry ~~(41)~~ to the network element ~~(GGSN)~~ of the cellular network to determine the readiness of said terminal ~~(MS)~~ to receive data, and that the network element of the cellular network comprises:

means ~~(61, 62, 67, 69, DNS)~~ for determining the readiness of said terminal to receive data; and

means ~~(66, 67)~~ for sending a first response message ~~(47)~~ to the messaging server ~~(MMSC)~~ in response to said first inquiry ~~(41)~~, the first response message comprising information on the readiness of said terminal ~~(MS)~~ to receive data.

20. (New) A method for implementing a messaging service between a terminal of a cellular network and a messaging server external to the cellular network, the method comprising:

receiving a message addressed to said terminal at the messaging server, wherein the method comprises;

sending a first inquiry from the messaging server to a specific first network element in the cellular network to determine the readiness of said terminal to receive data;

determining the readiness of said terminal to receive data as a result of operations performed by the first network element;

sending a first response message from the first network element of the cellular network to said messaging server in response to said first inquiry, in which response message the readiness of said terminal to receive data is indicated;

wherein values of parameters relating to the readiness of terminals of the cellular network to receive data are known to said network element of the cellular network and that the readiness of said terminal to receive data through said first network element is interpreted with the help of said parameter values the method further comprising:

in a situation, where said terminal is ready to receive data through said first network element, indicating said readiness in said first response message to said messaging server; and

in a situation, where said terminal is not ready to receive data through said first network element, sending a second inquiry to a home location register of the cellular network to determine a set of permissible network elements of the cellular network, the network elements belonging to the set of permissible network elements having in their knowledge values of parameters relating to the readiness of terminals to receive data, and through which network elements said terminal has the ability to receive data, and sending in response to said second inquiry a second response message from the home location register to said first network element, the second response message indicating said set of permissible network elements to said first network element.

21. (New) A method according to claim 20, wherein after said second response message has indicated said set of permissible network elements to said first network element, a third inquiry is sent to at least one second network element belonging to the set of permissible network elements by said first network element to determine the readiness of said terminal to receive data through said second network element, the method comprising:

in a situation, where said terminal is ready to receive data through said second network element, transmitting information on said readiness in response to said third inquiry from the second network element to the first network element; and

indicating said readiness in said first response message to said messaging sever.

22. (New) A method according to claim 20, wherein in a situation, where said terminal is ready to receive data



through a specific network element, the method comprises sending said message addressed to the terminal from the messaging server to the terminal through said specific network element.

23. (New) A method according to claim 20, wherein in a situation, where said terminal is not ready to receive data through any said network element, the method comprises repeating said first inquiry after a specific period of time.
24. (New) A method according to claim 20, wherein said network elements are gateway support nodes of a GPRS (General Packet Radio Service) network .
25. (New) A method according to claim 20, wherein the IP address of said terminal is indicated to said messaging server in said first response message.
26. (New) A method according to claim 20, wherein one of the following is used to identify the terminal MS in the cellular network: an IMSI (International Mobile Subscriber Identity) code, an IMUI (International Mobile User Identity) code.
27. (New) A method according to claim 20, wherein a specific identifier external to the cellular network is used between the cellular network and the messaging server to identify the terminal.
28. (New) A method according to claim 20, wherein said messaging server transfers a multimedia message to said terminal.

29. (New) A method according to claim 20, wherein said first inquiry is always sent from the messaging server to the same first network element.

30. (New) A method according to claim 20, wherein data transmission is effected in a packet switched mode.